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Shorter Notes

Distributional Update of *Alsophila cuspidata* (Kunze) Conant from Paraguay, and New Synonymy.—During the palynological studies of the Southern Cone Cyatheaceae (Marquez *et al.*, Rev. Paleobot. Paynol. 156:165–176. 2009), questions arose about the occurrence of *Alsophila cuspidata* (Kunze) D.S.Conant in Paraguay. This species, distributed from Nicaragua to northern Bolivia and through the Andes, has also been reported in Paraguay by Gastony (Gastony Contr. Gray Herb. 203:81–148. 1973), due to the fact that he included *Cyathea hassleriana* H.Christ in its synonymy [sub *Nephelea cuspidata* (Kunze) R. M. Tryon].

Alsophila cuspidata is very similar to *A. sternbergii* (Sternb.) D.S.Conant, which occurs in central-eastern and southern Brazil (Fernandes, Taxonomia e fitogeografia de Cyatheaceae e Dicksoniaceae nas Regiões Sul e Sudeste do Brasil. Doctoral thesis, Universidade de São Paulo. 1997). The species are distinguished by their leaf trichomes, by the scales of the petiole, and by their disjunct geographical distribution. This work verified that the material of these species from Bolivia and Peru corresponded to *A. cuspidata*, and that from Brazil and Paraguay was linked to *A. sternbergii*. Likewise, the material examined in the herbaria determined as *Cyathea hassleriana* coincided with *A. sternbergii*. To verify its identity, the type specimens of *C. hassleriana* and *C. rojasii* H.Christ (= *A. sternbergii* sensu Gastony, 1973), also from Paraguay, were studied. The morphology of trichomes and scales at the base of the petiole are consistent with the diagnostic characteristics of *A. sternbergii*. The trichomes found on the indusium and on the veins of the abaxial surface have several arms contorted, like those of *A. sternbergii* [vs. trichomes with 2–3 (4) arms straight in *A. cuspidata*]. The scales have an elongated apical seta, sometimes a second shorter seta, and just 1–2 marginal spaced setae or even none, while the scales of *A. cuspidata* have several apical setae (shorter) and numerous evenly distributed marginal setae (Tryon and Tryon, Ferns and allied plants with special reference to tropical America. Springer-Verlag, New York. 1982). The shape, the color and the ripening of the indusium are similar in both species. The spores of type material correspond to a typical pattern, which is similar in both species; they are trilete, hemispheric in equatorial view and have short cristate-ridges, distributed randomly on the surface.

Based on this morphological evidence and distribution, *A. cuspidata* is excluded from Paraguay, and *A. sternbergii* is considered to be present there, thus forming the new following synonymy:

Alsophila sternbergii (Sternb.) D.S.Conant. J. Arnold Arbor. 64(3): 371. 1983. *Cyathea sternbergii* Sternb., Fl. von Vorwelt 1: 47. 1820. Type: "Habitat in Brasiliae Capitania Goyaz ad Limoero non procul St. Izidro" *J.B.E.Pohl s. n.* (holotype BR, PCR or W not seen; isotype BR not seen, BM fragment and photographs digital image BM000937587!). *Cyathea hassleriana* H. Christ,

Bull. Herbier Boissier, sér. 2,7: 926. 1907. Type: "Arborea 2–3 m. in silvis humidis pr. Caacupe mens. In September", *E.Hassler 120* (Holotype, not located, isotype S fragment!) ***syn. nov.*** Note: Although the holotype is usually mentioned at P, it is not found in this herbarium (Curator communication). *Cyathea rojasii* H. Christ, Fede Repert. 6: 348. 1901. Type: Paraguay, Amambay, Sierra de Amambay, *E.Hassler & T.Rojas 10 414* (lectotype P not seen, digital image P00642406!, designed by Gastony, 1973).

DESCRIPTION AND ILLUSTRATION.—Gastony 1973: 132–137, Fig 81–87.

GEOGRAPHIC DISTRIBUTION.—Central-eastern and southern Brazil and eastern Paraguay.

STUDIED MATERIAL.—Paraguay. **Canindeyú**, R. N. Mbaracayú, 08.03.1996, *Marin & Jiménez 332* (CTES, PY), idem, 10.05.1996, *Jiménez Marín & GM 217* (CTES, MO, PY), idem, Ao. Vista Alegre, Yerbales, 7.1921, *Rojas 3862* (SI); **Paraguari**, Cerro Leon, 7.1881, *Balansa 2861* (P, CORD, SI).

OBSERVATIONS.—Gastony (1973) cites the specimen of Paraguay, *Balansa 2861*, as one part *A. cuspidata* and the other *A. sternbergii*. We analyzed several duplicates of *Balansa 2861* deposited in the CORD, SI and P (digital images) herbaria, and this study has made it clear that both belong to *A. sternbergii,* present in the Paranaense region.—GONZALO J. MARQUEZ, Cátedras de Palinología y Morfología Vegetal, Facultad de Ciencias Naturales y Museo, UNLP, Paseo de Bosque s/n, 1900, La Plata, Buenos Aires, Argentina, e-mail: cosme@fcnym.unlp.edu.ar, and M. MÓNICA PONCE, Instituto de Botánica Darwinion, Labardén 200, B1642HYD San Isidro, Buenos Aires, Argentina.